

Remarks**Allowable Subject Matter**

The examiner is thanked for allowing claims 3, 4, and 11.

Claim 3 has been amended to include the material in the preceding claims. Claims 3 and 4 are therefore now allowable.

Claims 8 and 10 have been combined as suggested and are now new claim 8.

Claim Rejections – 35 USC 103

Claims 1, 2 5-10 were rejected under 35 USC 103 as unpatentable over Okamura in view of Ker.

Claims 5 and 8 have been amended to specify that the switching elements include at least one LVTSCR operating in snapback mode which makes use of the changing voltage levels of the pulse input signal to provide for self-triggering on and self-triggering off of the LVTSCR.

The amended claims distinguish over Okamura and Ker in two ways:

1. The present invention deals with a charge pump to convert from one voltage level to another (see discussion in Background of the Invention section)

In contrast, Okamura works in the opposite way. As discussed in column 4, lines 38-47 of Okamura, Okamura seeks to minimize voltage variations by using a selector circuit to connect the capacitors C1 and C2 in parallel when the voltage over capacitor C1 is more than half the maximum. Thus Okamura does not deal with a charge pump circuit that seeks to pump up the voltage from one level to a higher one.

Ker also does not teach a charge pump circuit. Thus neither Okamura nor Ker taken separately or together teach or suggest a charge pump circuit that allows voltage level to be pumped up.

2. Furthermore, the claims as amended makes use of LVTSCRs as a switching elements to provide a new type of charge pump in which the switching elements do away with the need for a clock circuit to switch the switching elements by providing for self triggering on and off of the LVTSCRs. This is done by making use of a pulse generator in conjunction with the snapback characteristics of the LVTSCR as is discussed on page 4, lines 20-23 and page 5, lines 2-5.


This self triggering feature is neither taught nor suggested by either Okamura or Ker.

Thus claims 5 and 8 as amended and dependent claim 11 are now also distinguishable over the cited art.

The examiner is therefore asked to allow the claims as they now stand, as being novel and non-obvious over the prior art.

Respectfully Submitted,

Dated: 9/22/, 2005



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